CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/WNo.05/KRIDL/CEMENT/2014-15 Date: 24.07.2014

TEST REPORT

CLIENT	:	**Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
AGENCY	:	**Technical Manager,** KRIDL, Bangalore.
NAME OF THE WORK	:	Improvements to road and drains at Sriram Temple Road, Dwarakanagara in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.
REFERENCE	:	AEE/Byatarayanapura/BBMP/663/2014-15 Dated: 22.07.2014
SAMPLE ID	:	CEMENT
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4)	31.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5)	165 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	480 Minutes	Not More than 600 Minutes
3	Soundness by the Le-Chatelier method	IS-4031 (Part 3)	1 mm	Not more than 10 mm

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Job No.: CTCE/BBMP/WNo.05/KRIDL/SAND/2014-15 : 24.07.2014

TEST REPORT ON FINE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to road and drains at Sriram Temple Road, Dwarakanagara in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.

Reference : AEE/Byatarayanapura/BBMP/663/2014-15 Dated: 22.07.2014

Date of Testing : 24.07.2014

Material : Sand Total Wt. of Aggregates in gms **2000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	63	3.15	3.15	96.9	90-100
2.36	195	9.75	12.90	87.1	75-100
1.18	455	22.75	35.65	64.4	55-90
600 Micron	490	24.50	60.15	39.9	35-59
300 Micron	525	26.25	86.40	13.6	8-30
150 Micron	183	9.15	95.55	4.4	0-10

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Job No.: CTCE/BBMP/WNo.05/KRIDL/AGG/2014-15 : 24.07.2014

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to road and drains at Sriram Temple Road, Dwarakanagara in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.

Reference : AEE/Byatarayanapura/BBMP/663/2014-15 Dated: 22.07.2014

Date of Testing : 24.07.2014

Material : 40mm Aggregates

Total Wt. of Aggregates in gms **25400**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	850	3.35	3.35	96.65	95-100
20	15245	60.02	63.37	36.63	30-70
10	5000	19.69	83.05	16.95	10-35
4.75	3250	12.80	95.85	4.15	0-5

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Job No.: CTCE/BBMP/WNo.05/KRIDL/AGG/2014-15 : 24.07.2014

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to road and drains at Sriram Temple Road, Dwarakanagara in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.

Reference : AEE/Byatarayanapura/BBMP/663/2014-15 Dated: 22.07.2014

Date of Testing : 24.07.2014

Material : 20mm Aggregates

Total Wt. of Aggregates in gms= **5000**

Tabel - 1

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
40	0	0	0	100	100
20	125	2.50	2.5	97.50	95-100
10	3000	60.00	62.5	37.50	25-55
4.75	1650	33.00	95.5	4.50	0-10

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Job No.: CTCE/BBMP/WNo.05/KRIDL/STEEL/2014-15 24.07.2014

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
Agency	:	**Technical Manager,** KRIDL, Bangalore.
Name of the work	:	Improvements to road and drains at Sriram Temple Road, Dwarakanagara in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.
Reference	:	AEE/Byatarayanapura/BBMP/663/2014-15 Dated: 22.07.2014
Date of Test	:	24.07.2014
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	12	0.89	515	558	13.45	O.K	O.K

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Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/WNo.05/KRIDL/CUBE/2014-15 27.08.2014

TEST REPORT ON CONCRETE CUBES

Client	: **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
Agency	: **Technical Manager,** KRIDL, Bangalore
Name of the work	: Improvements to road and drains at Sriram Temple Road, Dwarakanagara in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.
Reference	: AEE/Byatarayanapura/BBMP/663/2014-15 Dated: 29.07.2014
Sample ID	: Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	30.07.2014	27.08.2014	8.255	481.6	21.40
2	30.07.2014	27.08.2014	8.315	493.8	21.95
3	30.07.2014	27.08.2014	8.368	508.4	22.60

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Building & Highway Material Testing Laboratory

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Job No.: CTCE/BBMP/WNo.05/KRIDL/WMM/Gradation/2014-15 05.08.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to road and drains at Sriram Temple Road, Dwarakanagara in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.

Reference : AEE/Byatarayanapura/BBMP/663/2014-15 Dated: 29.07.2014

Date of Testing : 05.08.2014

Material : WMM

Sample Location : WMM Mix Plant Oven Dry Wt (gm): 25210

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	895	895	3.6	96.4	95-100
22.4	6287	7182	28.5	71.5	60-80
11.2	5484	12666	50.2	49.8	40-60
4.75	4321	16987	67.4	32.6	25-40
2.36	3753	20740	82.3	17.7	15-30
0.600	2368	23108	91.7	8.3	8-22
0.075	1817	24925	98.9	1.1	0-8

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Job No.: CTCE/BBMP/WNo.05/KRIDL/SDBC/Bitumen/2014-15 12.08.2014

BITUMEN CONTENT AND GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX
AASHTO T 164 & AASHTO T 30

CLIENT	**Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager,** KRIDL, Bangalore.
NAME OF THE WORK	Improvements to road and drains at Sriram Temple Road, Dwarakanagara in Ward No. 05, Byatarayanapura Sub Division, BBMP, Bangalore.
REFERENCE	AEE/Byatarayanapura/BBMP/663/2014-15 Dated: 29.07.2014
SAMPLE I/D	Roads at Sriram Temple Road, Dwarakanagara in Ward No. 05
DATE OF TESTING	12.08.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	476.5	475.5
3. Weight of Asphalt and Mineral matter Extracted,	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	23.5	24.50
7. Bitumen content in %	4.70	4.90
8. Average	4.80	

GRADATION AFTER EXTRACTION

SIEVE SIZE	Trail 1				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
13.2	0	0	0	100	100
9.5	25.32	5.31	5.31	94.69	90-100
4.75	242.81	50.96	56.27	43.73	35-51
2.36	49.64	10.42	66.69	33.31	24-39
1.18	44.83	9.41	76.10	23.90	15-30
0.3	51.67	10.84	86.94	13.06	9-19
0.075	40.73	8.55	95.49	4.51	3-8

SIEVE SIZE	Trail 2				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
13.2	0	0	0	100	100
9.5	26.47	5.29	5.29	94.71	90-100
4.75	239.68	47.94	53.23	46.77	35-51
2.36	99.26	19.85	73.08	26.92	24-39
1.18	45.31	9.06	82.14	17.86	15-30
0.3	25.84	5.17	87.31	12.69	9-19
0.075	36.46	7.29	94.60	5.40	3-8

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